

Why banks should account for their full share of facilitated emissions

Executive summary

- Capital markets facilitation is an important driver of climate impacts and transition risks (e.g. legal risks) for banks, and an important lever for them to influence issuers' climate strategies. However, this activity is often excluded from banks' net-zero targets.
- The long awaited standard from the Partnership for Carbon Accounting Financials (PCAF) to report on 'facilitated emissions' should be released shortly, although the process has been delayed several times already due to divergent views among banks in the PCAF Working Group. Some of them are pushing to water down a key aspect of the standard – the weighting applied to capital markets volumes – arguing there are challenges in accounting for their full share. If this is adopted, a number of banks could be underreporting their climate impact for years to come.
- Banks already include their full share of capital markets facilitation when they report on green finance volumes. The double standards used to set targets and report on climate commitments casts doubt on the legitimacy of their reservations.
- Our analysis shows that lower weightings fail to address the challenges put forward by proponents of this approach and that these arguments can't be used to push for a lower level of ambition. For example, lower weightings would not correct for volatility of capital markets activity. And normalising capital markets volumes relative to lending wouldn't be justified either as capital markets don't necessarily strongly exceed lending in the portfolio.
- While PCAF is stuck in analysis paralysis, several major banks have already set net-zero targets covering capital markets facilitation. Almost all of them apply the highest possible weighting (100 per cent), showing it is possible to take ambitious steps if PCAF keeps delaying its guidance or if it settles on a weighting that is not ambitious enough.

Background

Banks are [making progress](#) on setting net-zero targets but most focus on lending and only a handful include capital markets facilitation^a – funding activities where banks do not provide capital themselves but play a critical role in facilitating access to it. Capital markets are a vital source of funding and will be key in delivering the low-carbon transition. In 2021 alone, global bond and equity issuances stood at US\$26.8 trillion¹.

Through capital markets facilitation, banks are in a unique position to influence issuers' climate strategies. It is also an important driver of climate impacts and transition risks – these activities can represent an important part of a bank's business (which has to transition) and create reputational and legal risks (if it doesn't). ShareAction has [shown](#) that half of the funding channelled by the 25 largest European banks to oil & companies with large expansion plans is in the form of capital markets facilitation. This is corroborated by the Rainforest Action Network's analysis across multiple fossil fuel segments², figures that are used as evidence in a climate lawsuit against BNP Paribas³.

Banks often point to the lack of industry standard to report on, and set targets for, capital markets facilitation. Some of them have turned to PCAF – an industry-led initiative that has emerged as the standard setter for financial greenhouse gas (GHG) accounting– to fill this gap. PCAF doesn't provide guidance on target setting but its guidance for 'facilitated emissions' reporting, expected in spring 2023⁴ after significant delays, will greatly influence target setting guidance (for example by the Net-Zero Banking Alliance or the Science Based Targets initiative).

PCAF ran two public consultations on keys aspects of its facilitated emissions standard, including:

- **Time period** over which facilitation activity is reported. Here PCAF has settled⁵ on the least 'ambitious' approach (year of issuance only), allegedly based on strong backing from consultation participants, although a) the questionnaire didn't cover this aspect of the methodology, and b) PCAF has not transparently communicated on the responses.
- **Weighting** applied to the facilitation activity. This was the focus of the second consultation and is subject to debate among PCAF members⁶. Proposals by PCAF and industry range from 17 per cent to 100 per cent of capital markets activity accounted for in facilitated emissions.

^a including advising issuers on structure, pricing, and process, preparing materials for and engaging with investors, and arranging and guiding clients on roadshows. Banks rarely retain facilitated amounts on their balance sheets and facilitation usually occurs over a few weeks.

Some PCAF members are pushing to lower this weighting and a significant number of banks could be underreporting their climate impact for years to come as a result. Proponents of a lower weighting have put forward technical and conceptual challenges in accounting for the full share of facilitated activity, including:

- Higher volatility due to large swings in capital markets volumes and lending exposure being dwarfed by capital markets volumes in the portfolio. This could make it difficult to differentiate financed from facilitated emissions (if aggregated) and banks may lose an incentive or reference to act on lending – their primary lever of influence – and/or it could be challenging to operationalise targets.
- Double counting of emissions between facilitators and investors buying the bonds and shares, or between lending and capital markets transactions with the same company. This could lead to an overestimation of emissions attributable to financial institutions.
- Flawed representation of banks' responsibility and risk due to the nature of their involvement in these transactions and the significance of facilitation in the financial system.

Important note: the weighting does not refer to allocation among arrangers when more than one bank is facilitating a transaction. PCAF has proposed to deal with that aspect through league table credit⁷, which is not controversial in our view. This analysis focuses on the weighting factor:

$$\text{Facilitated amount} = \text{league table credit} \times \text{total raised amount} \times \text{weighting factor}$$

Why banks should account for their full share of facilitated emissions

Banks already include their full share of capital markets facilitation in their green finance targets and disclosures. They should do the same for facilitated emissions.

All banks in the PCAF Working Group on Capital Markets Activities (Bank of America, Barclays, BNP Paribas, Citi, HSBC, Morgan Stanley, NatWest, and Standard Chartered) include some form of capital markets facilitation in their sustainable finance targets and/or disclosures^b. This is also the case for most banks in scope of our [banking survey](#). Yet only one of these banks (Barclays) includes capital markets facilitation in its net-zero targets, and it only accounts for 33 per cent of its share of facilitated emissions⁸ while accounting for 100 per cent of its share of facilitated sustainable finance volumes⁹.

Banks are using double standards to set targets and report on climate commitments. This casts doubt on the legitimacy of some banks' reservations and would be a clear sign of greenwashing if they don't align level of ambition across both parts of their climate strategy.

The PCAF standard on financed emissions already introduces significant volatility. Banks should transparently report on progress instead of underreporting volumes.

It is becoming increasingly apparent that technical factors unrelated to emissions introduce significant volatility in financed emissions. One of them is the 'allocation factor' defined by PCAF to link emissions to lending. For example, emissions linked to a corporate loan are attributed to the bank by dividing the loan by the borrower's enterprise value including cash (EVIC). An increase in EVIC will thus lead to a decrease in financed emissions and vice-versa.

Deutsche Bank reported that out of the 30 per cent reduction (6.8 MtCO₂) in financed emissions from its oil & gas portfolio in 2022, nearly a third (2 MtCO₂) was due to technical factors including higher EVIC¹⁰. Similarly, BMO

^b Source: company disclosures.

cautioned¹¹ that financed emissions from its oil & gas portfolio artificially increased in 2020 and then immediately decreased in 2021 as corporate valuations in the sector tumbled during the pandemic and recovered when energy markets tightened.

Capital markets activity can be volatile, but the PCAF standard already introduces significant volatility and this doesn't prevent banks from reporting their lending exposure in full. Some of them are even taking steps to correct it (e.g. Citi has proposed an EVIC adjustment method¹²). Instead of trying to correct for volatility by underreporting volumes, banks should communicate transparently on what drives progress (changes in the real economy or changes in methodology and portfolio composition). This is something several banks including ING¹³ have started doing.

Applying a lower weighting to capital markets facilitation doesn't correct for volatility. The approaches that correct for volatility the most have been dismissed by PCAF

Applying a weighting to capital markets facilitation can only contribute to normalising it relative to lending. Volatility of these activities would remain unchanged and may vary only at portfolio level when and if aggregated.

PCAF initially considered alternative ways to address volatility by adjusting the time period over which capital markets facilitation is reported (see table below)¹⁴, but eventually decided to exclude these in its second round of consultations.

| | |
|------------------------------------|--|
| Flow (preferred by PCAF) | Capital markets activity is accounted for in the year of issuance. |
| Average Flow | Capital markets activity is averaged over the life of the underlying instrument or a fixed period of time (e.g. 5 years). |
| Stock | Capital markets activity is accounted for over the life of the underlying instrument or a fixed period of time (e.g. 5 years). |
| Amortised Stock | Capital markets activity is amortised over the life of the underlying instrument or a fixed period of time (e.g. 5 years). |

PCAF said it had received a “clear response” supporting the flow approach from the public consultation, although to our knowledge it wasn't possible to provide feedback on this aspect of the methodology (see appendix 4), and PCAF has not transparently communicated on the responses.

Not only the other 3 approaches are more effective at correcting for volatility (something PCAF recognises), but they are also more ambitious in terms of reported volumes. For example, the net-zero targets set by Wells Fargo, which include capital markets facilitation using a method akin to the average flow approach, is the most effective

at correcting for volatility and is often more ambitious in terms of volumes reported than a flow approach (see appendix 1).

Another advantage of methods that account for capital markets activity beyond year of issuance is that they better reflect its climate impact. PCAF acknowledges that “capital markets issuances in one year will have a climate impact in many years that follow”¹⁵. If a bank facilitates the issuance of a bond by a fossil fuel company expanding capacity, the facilitation can enable the development of assets that will potentially emit carbon for decades. Accounting for capital markets facilitation over several years doesn’t fully reflect this impact either, but it certainly provides a better incentive to consider facilitated emissions’ impact on a forward-looking basis.

Capital markets volumes don’t necessarily dwarf lending. Arguing they do and advocating for a lower weighting on that basis would be the result of a selection bias

Capital markets disclosures are scarce and comparison against lending is challenging. And while lending is more often reported by banks, the industry classification used to disclose exposure by sector is not consistent. However, publicly available data suggests that capital markets activity doesn’t necessarily dwarf lending, both in terms of drawn amounts and total commitments. Ultimately, this is largely dependent on the bank’s business model and sectoral exposure.

Disclosures from Barclays and HSBC, both in the PCAF Working Group, provide a good example of this. Capital markets volumes facilitated by HSBC represented 56 per cent of its total financing (drawn loans and capital markets) for the oil & gas sector and 34 per cent of total financing for the power & utilities sector in 2019¹⁶. Barclays discloses this data across a range of sectors since 2021¹⁷. Capital markets volumes dwarf lending in a few instances (e.g. for power utilities and steel in 2022), but more often than not it doesn’t, especially when considering total commitments (see appendix 2).

We have also compared lending disclosures against capital markets volumes extracted from Bloomberg across four sectors and the eight banks in the PCAF Working Group on Capital Markets Activities (see appendix 3). The conclusion is broadly similar. Capital markets volumes are significantly higher than lending in a few instances, but this is far from being a consistent trend.

Important note: The sections above discuss volatility and comparability of lending and capital markets volumes at portfolio level. These issues can also arise at client level, but there is not enough data in the public domain to conduct this analysis. However, the conclusion is likely to be similar – it can be an issue for some clients, but not

necessarily an issue across the board. Banks should cope for these limitations through internal monitoring processes rather than underreporting volumes.

Applying a lower weighting to address non-issues like double counting or to split responsibility across financial actors would be inefficient, add complexity, and misrepresent risks and impacts

Barclays was the first major bank to set net-zero targets covering capital markets facilitation. The bank applies a 33 per cent weighting to its attributed share of capital markets volumes “with the remaining portion allocated to investors”¹⁸. PCAF has also discussed how capital markets volumes could be allocated across facilitators (banks) and investors, and has most recently proposed a 17 per cent weighting that “demonstrates a view of the relative value of facilitators versus lenders in the market” (G-SIB approach). Rationale for these approaches is usually to minimise double counting or to split responsibility across various financial actors based on the nature of their involvement in the transaction (e.g. whether or not they are taking financial risk) or weight in the overall financial system (e.g. importance of capital markets relative to lending).

Firstly, a lower weighting would add significant complexity without addressing double counting. Facilitators might apply a weighting to facilitated volumes, but investors and lenders will continue to report their attributed share of emissions in full (as per PCAF’s own guidance). We also question whether double counting – an implicit attribute of carbon accounting – needs to be resolved, especially if this is at the expense of transparency and ambition. In the words of PCAF, “[r]ather than creating a global carbon balance sheet, PCAF focuses on transparency and consistency”, and “[m]oving the focus from a global carbon balance sheet to transparency and standardisation [...] helps to clarify what the challenge is”¹⁹.

More importantly, attempts to split responsibility for facilitated emissions such as the G-SIB approach focus too narrowly on financial risk and not on climate impact and other transition risks such as reputational and legal risks. For example, lending and capital markets data has been used to support a climate lawsuit against BNP Paribas²⁰. While facilitation might be less important to a bank (from a credit risk perspective), it is just as important to a company receiving financing. Assigning a lower weighting to capital markets facilitation would misrepresent the level of support a bank provides to sectors key to achieving global climate goals.

Several major banks have already set targets covering capital markets facilitation, showing it is possible to take ambitious steps

The following banks, some of which are PCAF members and have a substantial capital markets wallet share, are already including capital markets facilitation in their targets^c. With the exception of Barclays, these banks account for their attributed share of capital markets facilitation in full.

| Bank | PCAF member | Approach | Weighting |
|----------------|-------------|--------------|-----------|
| Barclays | Yes | Flow | 33% |
| CIBC | Yes | Flow | 100% |
| Goldman Sachs | No | Flow | 100% |
| JPMorgan Chase | No | Flow | 100% |
| TD Bank | Yes | Flow | 100% |
| Wells Fargo | No | Average Flow | 100% |

Source: Company disclosures.

The challenges put forward by some PCAF members can simply be addressed by separating lending and capital markets activity, an approach PCAF has already endorsed

Throughout its second consultation paper²¹, PCAF emphasises how disclosing financed and facilitated emissions separately addresses many of the technical and conceptual challenges discussed above. In addition, the paper states that the “Working Group agreed that facilitated emissions shall be reported separately from financed emissions”. If lending and capital markets activity is not aggregated, the debate over which weighting banks should apply becomes irrelevant. We recognise that separating lending and capital markets can make it more difficult to operationalise targets at client level, but we believe it is possible for banks disclosing separately to develop internal metrics to cope with these limitations.

^c Source: Bloomberg’s capital markets league tables.

Appendix 1 – Comparing the level of ambition and volatility of various reporting methods

This analysis seeks to compare the level of ambition and volatility implied by various approaches contemplated by PCAF to account for capital markets facilitation.

| | |
|------------------------------------|--|
| Flow (preferred by PCAF) | Capital markets activity is accounted for in the year of issuance. |
| Average Flow | Capital markets activity is averaged over the life of the underlying instrument or a fixed period of time (e.g. 5 years). |
| Stock | Capital markets activity is accounted for over the life of the underlying instrument or a fixed period of time (e.g. 5 years). |
| Amortised Stock | Capital markets activity is amortised over the life of the underlying instrument or a fixed period of time (e.g. 5 years). |

As the methodology to translate capital markets activity into facilitated emissions (e.g. through an allocation factor) and portfolio composition can influence the results, we looked at how these approaches impact capital markets volumes (not emissions) assuming identical portfolios.

To generate the data we needed for this comparison, we relied on capital markets volumes collected for our analysis of the 25 largest European banks' financing of oil & gas expansion between 2016 and 2021²². This is because reporting on capital markets activity is scarce, and data from any single provider (e.g. Refinitiv, Bloomberg) is usually incomplete. This means our results don't necessarily reflect sector-specific trends. However, the oil & gas sector provides a good reference for this analysis due to the inherent volatility of oil & gas prices which impacts funding needs. Our data is expected to be more volatile than actual volumes as it was estimated based on a subset of oil & gas companies.

We generated capital markets data between 2020 and 2030 by taking the following steps:

- We assessed historical volatility of capital markets facilitation in our dataset.
- We selected Barclays as the base case as variability of its capital markets activity is representative of the average volatility observed among banks that were active during that period (i.e. excluding banks with little or no capital markets activity). Capital markets volumes were not aggregated across the 25 banks to avoid sampling variation (capital markets activity varied greatly in the sample due to different business models).

- The standard deviation and mean observed in the base case were used as inputs to randomly generate 10 individual scenarios (S1 to S10) up to 2030 (end date most often used by banks to set net-zero targets), assuming a normal (Gaussian) distribution. We performed a Kolmogorov-Smirnov test and determined this distribution was a good fit. Scenarios with negative values were discarded and replaced with scenarios including only positive values.

Figure 1. Historical and randomly generated capital markets data used to compare PCAF’s reporting methods

| US\$ billion | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | Mean | STD |
|--------------|------|------|------|------|------|------|------|-----|
| Barclays | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 5.8 | 3.8 |

| US\$ billion | Actual | | | | | Randomly generated | | | | | | | | | |
|--------------|--------|------|------|------|------|--------------------|------|------|------|------|------|------|------|------|------|
| Scenario | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
| S1 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 8.3 | 9.7 | 1.6 | 8.2 | 2.4 | 0.2 | 1.7 | 6.5 | 7.2 |
| S2 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 1.6 | 3.9 | 2.7 | 3.8 | 4.0 | 6.0 | 4.2 | 10.1 | 8.3 |
| S3 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 8.3 | 4.7 | 2.9 | 0.4 | 0.1 | 1.3 | 0.5 | 5.1 | 3.6 |
| S4 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 4.6 | 0.7 | 10.0 | 3.8 | 2.7 | 1.3 | 3.0 | 4.0 | 8.1 |
| S5 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 3.4 | 2.8 | 4.6 | 2.3 | 1.9 | 9.7 | 6.7 | 9.6 | 12.3 |
| S6 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 5.4 | 7.1 | 9.0 | 11.8 | 4.0 | 7.3 | 1.0 | 11.9 | 4.5 |
| S7 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 2.8 | 7.9 | 3.6 | 7.3 | 10.5 | 1.8 | 5.5 | 7.7 | 4.6 |
| S8 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 6.8 | 7.9 | 1.2 | 5.1 | 5.5 | 13.5 | 8.7 | 9.4 | 9.0 |
| S9 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 2.9 | 9.2 | 14.7 | 3.3 | 0.5 | 2.4 | 9.2 | 5.6 | 0.8 |
| S10 | 8.3 | 2.6 | 4.7 | 5.5 | 12.0 | 1.9 | 8.7 | 7.4 | 8.7 | 9.9 | 6.7 | 4.9 | 9.2 | 1.7 | 6.9 |

We then applied the 4 methods (flow, average flow, stock, amortised stock) to estimate capital markets volumes in scope of the facilitated emissions calculations between 2020 and 2030. We selected 2020 as the baseline as we chose to average/amortise volumes over 5 years for the average flow and amortised stock approaches. This meant we needed at least 5 years of historical data to estimate the baseline. We chose 5 years as this is the period considered by Wells Fargo and we wanted our results to reflect the approach taken by this bank to the extent possible for comparison purposes. A shorter period for averaging or amortising volumes (e.g. 3 years) is expected to impact the results of this analysis.

Finally, we compared the mean (reflecting how much the bank would be reporting on average) and coefficient of variation (reflecting how volatile reported volumes would be on average) across the 10 scenarios and 4 methods. We also produced separate estimates for the flow approach using a 66 per cent, 50 per cent, and 33 per cent weightings to show how lower weightings considered by some PCAF members could impact reported volumes and volatility.

Results are shown in the tables below. A higher mean (greener on the colour scale) equates to higher volumes reported over the period on average, while a lower coefficient of variation (greener on the colour scale) equates to lower volatility of reported volumes over the period. We consider that higher volumes equate to higher ambition as they would reflect banks’ willingness to take responsibility for their facilitated emissions.

Figure 2. Mean and coefficient of variation of capital markets facilitation activity across various scenarios and reporting methods

| | MEAN | | | | | | | COEFFICIENT OF VARIATION | | | | | | |
|-----|-------|------|------|------|-----|------|------|--------------------------|------|------|------|------|------|------|
| | F100% | F66% | F50% | F33% | AF | S | AS | F100% | F66% | F50% | F33% | AF | S | AS |
| S1 | 5.4 | 3.6 | 2.7 | 1.8 | 5.4 | 26.0 | 16.0 | 0.73 | 0.73 | 0.73 | 0.73 | 0.28 | 0.28 | 0.33 |
| S2 | 5.3 | 3.5 | 2.7 | 1.8 | 4.8 | 23.6 | 14.8 | 0.64 | 0.64 | 0.64 | 0.64 | 0.26 | 0.27 | 0.31 |
| S3 | 3.7 | 2.4 | 1.9 | 1.2 | 4.0 | 19.2 | 11.6 | 1.00 | 1.00 | 1.00 | 1.00 | 0.55 | 0.58 | 0.60 |
| S4 | 4.7 | 3.1 | 2.4 | 1.6 | 4.7 | 22.8 | 13.9 | 0.78 | 0.78 | 0.78 | 0.78 | 0.23 | 0.24 | 0.29 |
| S5 | 6.1 | 4.0 | 3.1 | 2.0 | 5.2 | 25.3 | 16.3 | 0.68 | 0.68 | 0.68 | 0.68 | 0.28 | 0.31 | 0.37 |
| S6 | 6.9 | 4.6 | 3.5 | 2.3 | 6.7 | 32.6 | 20.2 | 0.57 | 0.57 | 0.57 | 0.57 | 0.12 | 0.13 | 0.15 |
| S7 | 6.0 | 3.9 | 3.0 | 2.0 | 5.9 | 28.8 | 17.7 | 0.57 | 0.57 | 0.57 | 0.57 | 0.10 | 0.11 | 0.14 |
| S8 | 7.4 | 4.9 | 3.7 | 2.4 | 6.5 | 31.8 | 20.5 | 0.52 | 0.52 | 0.52 | 0.52 | 0.21 | 0.24 | 0.25 |
| S9 | 5.7 | 3.8 | 2.8 | 1.9 | 5.8 | 28.7 | 17.6 | 0.85 | 0.85 | 0.85 | 0.85 | 0.20 | 0.22 | 0.26 |
| S10 | 7.1 | 4.7 | 3.5 | 2.3 | 7.0 | 33.9 | 21.0 | 0.46 | 0.46 | 0.46 | 0.46 | 0.13 | 0.12 | 0.14 |

F: Flow (weighting indicated in brackets); AF: Average Flow; S: Stock; Amortised Stock

It can be observed that:

- The stock approach is the most ambitious on average in terms of reported volumes, followed by the amortised stock, average flow, and flow approaches (applying a 100 per cent weighting).
- The average flow and simple flow approaches seem to be equally ambitious on average in terms of reported volumes, but the mean is not a good indicator here as the former approach basically averages the other over the period. A more granular analysis of reported volumes year-on-year shows that the average flow approach:
 - is more ambitious than a 33 per cent-weighted flow approach 99 per cent of the time (less ambitious in years between an extended period of decline and a sudden rebound)
 - is more ambitious than a 50 per cent-weighted flow approach 97 per cent of the time (less ambitious in years between a period of decline and a rebound)
 - is more ambitious than a 66 per cent-weighted flow approach 79 per cent of the time (less ambitious in years between an extended period of increase and sudden decline)
 - is more ambitious than a 100 per cent-weighted flow approach 74 per cent of the time (less ambitious in a year between a period of increase and a decline)
- The approach that corrects the most for volatility is the average flow approach, followed by the stock approach and amortised stock approach.
- Lower weightings don't correct for the inherent volatility of the simple flow approach.

Appendix 2 – Lending and capital markets volumes as reported by Barclays

We deem that capital markets volumes ‘dwarf’ lending when they represent more than 90 per cent of total financing (lending and capital markets).

- Occurrences where capital markets represent more than 90 per cent of total financing are highlighted in red.
- Occurrences where capital markets represent less than 90 per cent of total financing are highlighted in green.

| GBP million | 2022 | | | | | | 2021 | | | | | |
|---|--------------------------|------------------|---------------------------|-----------------|--|---|--------------------------|------------------|---------------------------|-----------------|--|---|
| | Lending Loans & advances | Loan commitments | Lending Total Commitments | Capital markets | % Capital Markets (drawn exposure & capital markets) | % Capital Markets (total commitments & capital markets) | Lending Loans & advances | Loan commitments | Lending Total Commitments | Capital markets | % Capital Markets (drawn exposure & capital markets) | % Capital Markets (total commitments & capital markets) |
| Agriculture, Food and Forest Products | 5,639 | 9,425 | 15,064 | 9,486 | 63% | 39% | 5,718 | 9,489 | 15,207 | 18,416 | 76% | 55% |
| Agriculture | 3,765 | 894 | 4,659 | 0 | 0% | 0% | 4,081 | 1,111 | 5,192 | 382 | 9% | 7% |
| Food, Bev and Tobacco | 1,669 | 7,886 | 9,555 | 8,609 | 84% | 47% | 1,428 | 7,497 | 8,925 | 14,997 | 91% | 63% |
| Paper and Forest Products | 205 | 645 | 850 | 877 | 81% | 51% | 209 | 881 | 1,090 | 3,037 | 94% | 74% |
| Energy | 5,233 | 26,578 | 31,811 | 43,042 | 89% | 58% | 3,558 | 24,352 | 27,910 | 39,294 | 92% | 58% |
| Coal Mining and Coal Terminals | 0 | 0 | 0 | 0 | 0% | 0% | 0 | 45 | 45 | 0 | 0% | 0% |
| Oil and Gas | 2,752 | 12,608 | 15,360 | 9,747 | 78% | 39% | 2,365 | 12,477 | 14,842 | 12,558 | 84% | 46% |
| Power Utilities | 2,481 | 13,970 | 16,451 | 33,295 | 93% | 67% | 1,193 | 11,830 | 13,023 | 26,736 | 96% | 67% |
| Materials and Building | 31,610 | 36,295 | 67,905 | 33,750 | 52% | 33% | 29,945 | 33,336 | 63,281 | 63,473 | 68% | 50% |
| Cement | 222 | 160 | 382 | 200 | 47% | 34% | 37 | 353 | 390 | 0 | 0% | 0% |
| Chemicals | 584 | 4,377 | 4,961 | 2,800 | 83% | 36% | 498 | 4,227 | 4,725 | 4,876 | 91% | 51% |
| Construction and Materials | 1,574 | 2,128 | 3,702 | 3,006 | 66% | 45% | 1,416 | 1,989 | 3,405 | 3,181 | 69% | 48% |
| Homebuilding and Property Development | 3,513 | 2,121 | 5,634 | 760 | 18% | 12% | 4,014 | 2,066 | 6,080 | 976 | 20% | 14% |
| Manufacturing | 3,406 | 13,110 | 16,516 | 14,062 | 81% | 46% | 3,326 | 12,141 | 15,467 | 28,482 | 90% | 65% |
| Metals | 327 | 656 | 983 | 744 | 69% | 43% | 247 | 553 | 800 | 1,130 | 82% | 59% |
| Mining (incl. diversified miners) | 201 | 2,262 | 2,463 | 436 | 68% | 15% | 152 | 1,769 | 1,921 | 2,515 | 94% | 57% |
| Packaging Manufacturers: Metal, Glass and Plastics | 95 | 314 | 409 | 33 | 26% | 7% | 85 | 288 | 373 | 932 | 92% | 71% |
| Real Estate Management and Development | 21,648 | 10,983 | 32,631 | 11,271 | 34% | 26% | 20,135 | 9,723 | 29,858 | 20,860 | 51% | 41% |
| Steel | 40 | 184 | 224 | 438 | 92% | 66% | 35 | 227 | 262 | 521 | 94% | 67% |
| Transport | 2,937 | 10,123 | 13,060 | 9,904 | 77% | 43% | 3,211 | 9,129 | 12,340 | 23,559 | 88% | 66% |
| Automotive | 968 | 5,493 | 6,461 | 3,865 | 80% | 37% | 879 | 5,133 | 6,012 | 9,961 | 92% | 62% |
| Aviation | 465 | 2,221 | 2,686 | 2,132 | 82% | 44% | 553 | 1,663 | 2,216 | 6,221 | 92% | 74% |
| Other Transport Services | 647 | 1,170 | 1,817 | 2,648 | 80% | 59% | 622 | 1,181 | 1,803 | 3,947 | 86% | 69% |
| Ports | 95 | 87 | 182 | 0 | 0% | 0% | 99 | 115 | 214 | 124 | 56% | 37% |
| Road Haulage | 453 | 429 | 882 | 0 | 0% | 0% | 671 | 419 | 1,090 | 1,062 | 61% | 49% |
| Shipping | 309 | 723 | 1,032 | 1,259 | 80% | 55% | 387 | 618 | 1,005 | 2,244 | 85% | 69% |
| Carbon-related assets in UK Retail Mortgages | 162,263 | 12,103 | 174,366 | 0 | 0% | 0% | 158,113 | 11,315 | 169,428 | 0 | 0% | 0% |

Appendix 3 – Comparing lending and capital markets volumes

This analysis seeks to compare whether capital markets volumes facilitated by banks do “dwarf” lending volumes across sectors and business models.

We aimed to collect data for the eight banks in the PCAF Working Group on Capital Markets Activities: Bank of America, Barclays, BNP Paribas, Citi, HSBC, Morgan Stanley, NatWest, Standard Chartered²³.

The industry classification that banks use to disclose exposure by sector is not consistent. We chose four sectors that most banks tended to disclose with similar segmentation: Oil & Gas; Utilities; Metals & Mining; and Chemicals. However, we were unable to find suitably consistent disclosures for BNP Paribas and had to exclude it from this part of the analysis.

For lending, we used publicly disclosed data by banks on their lending activities by sector or industry. We chose this instead of extracting data on annual lending from Bloomberg (flow data) as lending is treated as a stock in the PCAF standard for financed emissions²⁴. We aimed to collect data on both on-balance sheet exposure (drawn amounts) and total committed exposure (drawn and undrawn commitments) where possible. Currencies other than USD were converted using the prevailing exchange rate at the relevant reporting date (e.g., 31 December 2021 for 2021 disclosures). Data availability varies substantially per bank.

For capital markets activities, banks’ public disclosures on their activities by sector or industry are limited, with certain exceptions such as Barclays. To collect this data, we instead relied on Bloomberg’s capital markets league table function to extract bond and equity volumes per bank for each of the sectors and years in scope. We relied on Bloomberg’s industry classification, and this may differ from the classification used by banks for lending. League tables rank banks based on their total capital markets activities, by summing up the credit allotted to each bank for each of the transactions that it participated in. “Credit allocation” is the pro rata share of the issuance value allotted by Bloomberg to each bank based on their role in the transaction. There are a minority of deals where a credit allocation was not available; here Bloomberg provides an estimate using “wallet-share allocation”, an alternative metric for calculating the proportion of an issuance that can be attributed to a bank. Where relevant, these values were added to the league table credit total to provide a fuller estimate of the capital markets activities of each bank in any given year.

Disclaimer: Data from any single provider, such as Bloomberg, Refinitiv Eikon, is usually incomplete. Large analyses of financial flows usually rely on a combination of various financial databases (see, for example, GCEL

methodology²⁵). As our data relies solely on Bloomberg, it may not capture all transactions and could underestimate capital markets volumes. A comparison between reported capital markets data and our Bloomberg data for Barclays – the only bank to consistently report on its capital markets activities - suggests that even though Bloomberg underestimates capital markets volumes compared to Barclays' disclosures, it does not change the conclusions of our analysis.

Lending compared to capital markets volumes for the 8 banks in the PCAF Working Group and across 4 sectors

We deem that capital markets volumes ‘dwarf’ lending when they represent more than 90 per cent of total financing (lending and capital markets).

- Occurrences where capital markets represent more than 90 per cent of total financing are highlighted in red – no occurrences were found.
- Occurrences where capital markets represent less than 90 per cent of total financing are highlighted in green.
- Missing data is highlighted in grey.

| Bank | Sector | 2022 | | 2021 | | 2020 | | 2019 | |
|--------------------|-----------------|--|---|--|---|--|---|--|---|
| | | % capital markets (drawn exposure & capital markets) | % capital markets (total commitments & capital markets) | % capital markets (drawn exposure & capital markets) | % capital markets (total commitments & capital markets) | % capital markets (drawn exposure & capital markets) | % capital markets (total commitments & capital markets) | % capital markets (drawn exposure & capital markets) | % capital markets (total commitments & capital markets) |
| Barclays | Chemicals | 60% | 15% | 79% | 28% | - | 36% | - | - |
| Barclays | Metals & Mining | 31% | 6% | 71% | 26% | - | 25% | - | 22% |
| Barclays | Oil & gas | 46% | 13% | 68% | 26% | - | 47% | - | 33% |
| Barclays | Utilities | 80% | 38% | 88% | 40% | - | 47% | - | 46% |
| HSBC | Chemicals | 17% | - | 11% | - | 17% | - | - | - |
| HSBC | Metals & Mining | 7% | - | - | - | 19% | - | - | - |
| HSBC | Oil & gas | 11% | - | 32% | - | 40% | - | - | - |
| HSBC | Utilities | 19% | - | 24% | - | 26% | - | - | - |
| NatWest | Chemicals | 36% | 19% | 25% | 11% | 13% | 6% | 22% | 9% |
| NatWest | Metals & Mining | 0% | 0% | 0% | 0% | 18% | 8% | 32% | 17% |
| NatWest | Oil & gas | 0% | 0% | 30% | 18% | 28% | 13% | 7% | 3% |
| NatWest | Utilities | 37% | 18% | 30% | 15% | 50% | 26% | 44% | 22% |
| BofA | Chemicals | - | - | - | - | - | - | - | - |
| BofA | Metals & Mining | - | - | - | - | - | - | - | - |
| BofA | Oil & gas | 23% | 11% | 46% | 26% | 66% | 45% | 44% | 26% |
| BofA | Utilities | 37% | 23% | 40% | 23% | 55% | 34% | 44% | 21% |
| Citi | Chemicals | - | - | 40% | 18% | 59% | 34% | - | 20% |
| Citi | Metals & Mining | - | - | 49% | 30% | 46% | 27% | - | 17% |
| Citi | Oil & gas | - | - | 64% | 31% | 68% | 37% | - | 29% |
| Citi | Utilities | - | - | 75% | 39% | 72% | 37% | - | 31% |
| Morgan Stanley | Chemicals | - | - | - | - | - | - | - | - |
| Morgan Stanley | Metals & Mining | - | - | - | - | - | - | - | - |
| Morgan Stanley | Oil & gas | - | 24% | - | 56% | - | 59% | - | 56% |
| Morgan Stanley | Utilities | - | 50% | - | 57% | - | 57% | - | 55% |
| Standard Chartered | Chemicals | - | - | - | - | - | - | - | - |
| Standard Chartered | Metals & Mining | 10% | 5% | 24% | 13% | - | - | - | - |
| Standard Chartered | Oil & gas | 9% | 3% | 22% | 8% | - | - | - | - |
| Standard Chartered | Utilities | 16% | 10% | 28% | 15% | - | - | - | - |

Appendix 4 – Consultation related to PCAF’s discussion paper on capital market instruments (2021)

a. Q1: Do you believe that PCAF should develop a standard for “Facilitated emissions from capital market instruments”?

b. Q1a: Why do you believe that PCAF should develop a standard for “Facilitated emissions from capital market instruments”?

c. Q2: Do you agree that facilitated emissions should be reported separately from financed emissions?

d. Q2a: Why do you **disagree** that facilitated emissions should be reported separately from financed emissions?

Please elaborate.

e. Q3: Regarding chapter 4: Which of the options described do you prefer as a methodology for facilitated emissions?

A Time period for reporting

Key B Allocation of emissions among facilitators/arrangers ✓

C Allocation of emissions between issuer and facilitator

D Need for forward- or backward-looking approach

OK ✓

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